

## **REMARKS/ARGUMENTS**

Applicants respectfully request reconsideration and allowance of this application in view of the following comments.

### **Amendments made to the claims**

Claim 1 has been amended by introducing that the protein containing products are **blood plasma or blood plasma products**. Said amendment is supported by the disclosure of para. [0017] of the application.

Furthermore Claim 1 has been amended by consequently reciting “said pieces of ice” instead of “the pieces of ice”. Said amendment is for clarification purposes only and does not alter the scope of Claim 1 as filed in response to the previous office action. Furthermore the amendment is supported by the disclosure of Example 1 of the application as filed, as therein no further “pieces of ice” are introduced into the mixer. Accordingly the pieces of iced handled according to Applicants' process are always “said pieces of ice” introduced into the process.

In addition to that Claim 1 has been amended by introducing that floating **pieces of ice of said pieces of ice which have not yet been melted** are continually submerged in the liquefied phase and mixed with it.

Said amendment, again should be considered for clarification purposes only, as according to Applicants' process (see Example 1) the mixer is only filled with said pieces of ice. Thereafter, a certain proportion of said pieces of ice starts to thaw and thereby forms the

liquefied phase of Claim 1. Due to the water in the pieces of ice and further due to the anomaly of water that it's density in a frozen state is less than it's density in a liquid state at less than 10°C above it's melting point the remaining pieces of ice automatically float on the liquid.

Claim 5 has been deleted.

### **Rejections under 35 USC § 102**

Claims 1, 3, 5 and 9 stand rejected under 35 USC § 102(b) as being anticipated by WO2003/032740A1 to Nielsen (hereinafter “Nielsen”).

In previous office actions the Examiner found Applicants' invention as claimed in Claims 1, 3, 5 and 9 anticipated by the Nielsen reference, as according to the Examiner the Nielsen reference teaches a method for thawing pieces of ice which contain protein-containing products and water (meat) (1: 4-5), whereby a mixing is performed at a temperature which is less than 10°C above the melting point of the ice (5:20, claims 1 and 5) and whereby the pieces of ice are melted to form a liquid phase (2: 8-10, 2:25-26), while any pieces of ice are continually submerged in the liquefied phase and mixed with it (figs. 1-3, 5:1ff). Said rejection has been maintained in the office action now being responded to.

By virtue of the foregoing amendment of Claim 1, said rejection is moot, as the Nielsen reference neither teaches nor suggests and thus does not anticipate handling of “blood plasma or blood plasma products” such as recited in amended Claim 1.

Hence, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 1, 3, 5 and 9 as being anticipated by WO2003/032740A1 to Nielsen under 35 USC §

102(b) should now be withdrawn.

### **Rejections under 35 USC § 103**

Claims 1, 4-5, 7 and 9 are rejected under 35 USC § 103 (a) as unpatentable over US 4,638,048 to “Foster” in view of US 607,228 to “Dyer”.

Again, the Examiner combines the teaching of the Foster reference with those of the Dyer reference in stating that the Foster reference teaches each and every limitation of Applicants' Claim 1, but the fact that it's a horizontal mixer used to thaw the ice, while such limitation would be taught by the Dyer reference which can be readily combined with the Foster reference.

In repetition to the response to the foregoing office action, Applicants respectfully point out that the “snow” of the Foster reference is not continually submerged in the liquefied phase and mixed with it, but circulated in a submerged state after being introduced into the apparatus of the Foster reference (see 1: 62 to 2: 2).

The Examiner is respectfully requested to consider the following which should have already been noted by carefully reading the Examples of Applicants' invention described in the application as filed.

Applicants have found that the horizontal alignment of the mixer allows for more rapid thawing of the pieces of ice, as “in vertical operation there was insufficient vertical exchange between liquid and ice resulting in long thawing times”.

As explained in course of the amendments made to the Claims water displays an anomaly with regard to the dependency of its density on temperature and physical state. Water in the form

of ice has a slightly lesser density than water in a liquid state at a temperature of less than 10°C above its melting point. Accordingly, ice pieces tend to ascend slowly to the surface of an aqueous solution if not hindered by a sufficiently strong fluid flow drag in the opposite direction applied thereon.

Considering the process of the Foster reference the “snow” particles are continually submerged in the liquid due to the drag force applied by the mixer in the apparatus and due to the long distance to be traveled by the pieces of ice to the surface of the liquid.

Said long distance is an intrinsic property of the vertical alignment of the apparatus of the Foster reference. In contrast thereto and according to Applicants' invention the horizontal alignment allows for shortening the distance to the surface of the liquid which again allows for the ice pieces which have not yet been melted to float on the liquefied melt.

Besides that, and in contrast thereto, the Foster reference intends to avoid ascendancy of said “snow” to the surface of the liquid (1: 62 to 2:15) by appropriate application of fluid flow drag and thereby teaches away from allowing the “snow” to float. Only the liquefied solution is allowed to flow in an upwards direction, while the not yet melted pieces are forced to remain in the liquid phase without allowing them to ascend to the surface of the solution.

Applicants have addressed that discrepancy in course of the amendment made to Claim 1.

Indeed, Applicants have found that not allowing pieces of ice to ascend to the surface of the liquefied pieces of ice and continually submerging them after ascendancy allows for a significant shortening of thawing time while still keeping thermal stress applied on the (thermally

sensitive) blood plasma low (see Example 1).

Accordingly, the horizontal arrangement of the mixer according to the present invention is not to be considered to be an “alternative” to a vertical arrangement of the Foster reference, which is made by a person of ordinary skill in the art as alleged by the Examiner in the current office action but transports a technical advantage for the gentle thawing of the thermally sensitive product “blood plasma of blood plasma products”.

Accordingly, to render Applicants' invention obvious over the combination of the Foster reference and the Dyer reference one of ordinary skill in the art would need something that would suggest applying said change in orientation of the mixer of the Foster reference, which in fact is not the case as outlined before and further would need to find a suitable teaching transporting said technical effect with regard to the thawing of thermally sensitive products such as “blood plasma or blood plasma products” in a secondary reference such as the Dyer reference.

The Dyer reference however is concerned with the crystallization of sugar and not with the thawing of a thermally sensitive product.

Accordingly, as the Foster reference does neither motivate to change the orientation nor suggest in any way to alter the orientation and continuous submersion of the blood plasma and as the Dyer reference pertains to a technical field distinct to Applicants' invention, Applicants' current Claim 1 is not obvious over Foster in view of Dyer.

Hence, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 1, 4-5, 7 and 9 as being unpatentable over US 4,638,048 to Foster in view of US 607,228

to Dyer under 35 USC § 103 (a) should now be withdrawn.

Claims 2 and 3 are rejected under 35 USC § 103 (a) as unpatentable over Foster in view of Dyer as applied to Claim 1 and further in view of US 4,233,676 to “Lücke”.

As outlined in response to previous office actions the Lücke reference does not help to overcome the discrepancies between Applicants' invention, as defined in Claim 1, and the technology disclosed by the Foster/ Dyer combination of references and thus can not help to render applicants Claims 2 and 3, depending from Claim 1, obvious over the combination of Foster in view of Dyer as applied to Claim 1 and further in view of said Lücke reference.

In short, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 2 and 3 as being unpatentable over Foster in view of Dyer as applied to Claim 1 and further in view of US 4,233,676 to ‘Lücke under 35 USC § 103 (a) should now be withdrawn.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding rejections.

Again, Applicants point out that the corresponding European case has already been allowed under EP 1 697 029 B1 on 2008-02-06 and no opposition has been filed against such an allowance.

Applicants also believe that this application is in condition for immediate allowance. However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,  
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